

# ***CHAPTER 1***

## **PURPOSE AND NEED**

MONTANA

# CHAPTER 1: PURPOSE OF AND NEED FOR ACTION

## Introduction

This Final Environmental Impact Statement (FEIS) was prepared jointly by the Bureau of Land Management (BLM) and the State of Montana (state). The Federal and State of Montana lead agencies for the development of the EIS are the BLM, Montana Board of Oil and Gas Conservation (MBOGC) in the Department of Natural Resources and Conservation (DNRC), and the Montana Department of Environmental Quality (MDEQ). The Environmental Protection Agency (EPA), Bureau of Indian Affairs (BIA), Department of Energy (DOE), and Crow Tribe of Indians are cooperating agencies for the EIS. The Northern Cheyenne Tribe has also participated in the development of this EIS.

The EIS has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and the Montana Environmental Policy Act (MEPA) of 1971. The EIS analyzes the impacts from future exploration and development of oil and gas resources statewide, with emphasis on the BLM planning area of the Billings and Powder River Resource Management Plan (RMP) areas, and Blaine, Gallatin, and Park counties.

BLM proposes to amend the Billings and Powder River RMPs. The existing Powder River and Billings RMPs, as amended by BLM's 1994 *Oil and Gas Amendment of the Billings, Powder River, and South Dakota RMPs*, address conventional oil and gas development and limited coal bed methane (CBM) exploration and development. Current projections by industry indicate heightened interest in the exploration and development of CBM. Both conventional oil and gas and expanded CBM development would constitute a major federal action with potential significant effects to the human environment. An EIS is needed to consider the impacts associated with amending the RMP to provide for CBM production. A RMP amendment is needed in order to allow BLM to change existing land use decisions regarding oil and gas operations.

The MBOGC has placed a moratorium on state-permitted CBM wells in Montana until the EIS is completed. The EIS will be used by the state to supplement its 1989 Final Programmatic EIS for permitting oil and gas activities, particularly large-scale CBM development.

Future oil and gas NEPA analysis by BLM or BIA or MEPA analysis by the State of Montana could tier from this EIS. BLM's approval of oil and gas activities

in the planning area would be consistent with the requirements developed in this RMP amendment. Similarly, the state's approval of CBM activities would be based on this plan. If a Native American tribe proposes to develop its CBM resource, the BIA will need to comply with NEPA for its approval actions. The BIA could adopt this EIS, or tier from the EIS, for use in its NEPA analysis.

It is important to note that this EIS considers the impacts of CBM development from a broad, wide, planning perspective. Permits for individual drilling and development proposals would not be issued until site-specific NEPA or MEPA analysis had been completed.

## Conformance With the BLM Land Use Plans

The Billings RMP was approved through a Record of Decision (ROD) issued by BLM September 28, 1984. The Powder River RMP was approved through a Record of Decision issued by BLM on March 15, 1985. BLM's 1994 Oil and Gas Amendment of the Billings, Powder River, and South Dakota RMPs amended these RMPs. The decisions made in the RMPs allow for a certain level of conventional oil and gas development on federal leases, support limited CBM exploration and development, but do not include analysis for full-scale CBM development:

"The [1992] Reasonably Foreseeable Development [RFD] projections can accommodate the drilling of test wells and initial small-scale development of CBM. The extension of the

### What has Changed in Chapter 1 Since the Draft EIS?

Chapter 1 contains the purpose and need for the action, and therefore forms the basis for the analysis of the alternatives. More text was added to the Roles and Agency Responsibilities section to provide additional clarity. Based on public comment, a new section was added to further define the role of Tribal governments in the EIS process. Finally, the list of agency-required permits was moved from Chapter 2 into Chapter 1 and a Permissible Activities matrix table was added to clarify the agencies involvement. The permit list is unchanged from the DEIS. Text throughout the chapter was revised for simpler presentation.

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nonconventional fuels tax credit for wells drilled before December 31, 1993, should generate some activity in the planning area. This amendment does not contain either a hydrologic analysis of the RFD area or an environmental study of the impacts of building major pipeline systems. In order for development to occur on federal oil and gas lands, an additional environmental document tied to this amendment would be required” (BLM 1992).

This 2003 EIS is that document.

## The Planning Area

The planning area shown in Map 1-1 is the area where oil and gas decisions will be made by BLM and the State of Montana. The BLM’s planning area is the oil and gas estate administered by the BLM in the Powder River and Billings RMP areas. The State of Montana’s planning area is statewide, with emphasis on the state-administered oil and gas within the BLM planning area and in Blaine, Park, and Gallatin counties. The planning area excludes those lands administered by the Forest Service, and sovereign tribal governments, such as the Crow Tribe of Indians, and the Northern Cheyenne Tribe. Indian allotted lands are also excluded from the planning areas.

For ease of reference, the Billings and Powder River RMP areas, and Blaine, Park, and Gallatin counties, are referred to in the document as the BLM and state “CBM emphasis area.” This is the 16-county area within the BLM and state planning area where there is CBM development interest.

The Powder River RMP area encompasses the southeastern corner of Montana, including Powder River and Treasure counties, and portions of Big Horn, Carter, Custer, and Rosebud counties. The Powder River RMP area comprises approximately 1,080,675 acres of federally managed surface and 4,103,700 acres of federal mineral estate.

The Billings RMP Area comprises the south-central portion of Montana consisting of Carbon, Golden Valley, Musselshell, Stillwater, Sweet Grass, Wheatland, and Yellowstone counties and the remaining portion of Big Horn County. The Billings RMP area comprises approximately 425,336 acres of federally managed surface and 906,084 acres of federal mineral estate.

Adjacent to the planning areas, other major land holdings include the Crow, Northern Cheyenne, and Fort Belknap Indian reservations, the Custer National

Forest, the Big Horn Canyon National Recreational Area, the Burlington Northern and Santa Fe Railroad, and the Fort Keogh Agricultural Experiment Station. The total surface area of the CBM emphasis area (all owners) exceeds 25 million acres.

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The BLM is responsible for managing federally owned oil and gas resources. During the October 18, 2000, meeting of the Coal Bed Methane Coordination Group, oil and gas industry representatives presented their predictions for the number of CBM wells that might be drilled within the planning area.

The purpose of the EIS is to analyze impacts from oil and gas activity, particularly from CBM exploration, production, development, and reclamation in the Billings and Powder River RMP areas. This EIS is being used to analyze options for BLM to change its planning decisions by considering oil and gas management options including mitigating measures that will help minimize the environmental and social impacts related to CBM activities. The alternatives presented provide a range of management options for amending the RMPs. The preferred alternative (Alternative E) is BLM’s proposed RMP amendment. The EIS will focus the analysis on the oil and gas development issues not covered in the current RMPs, such as water management from CBM production.

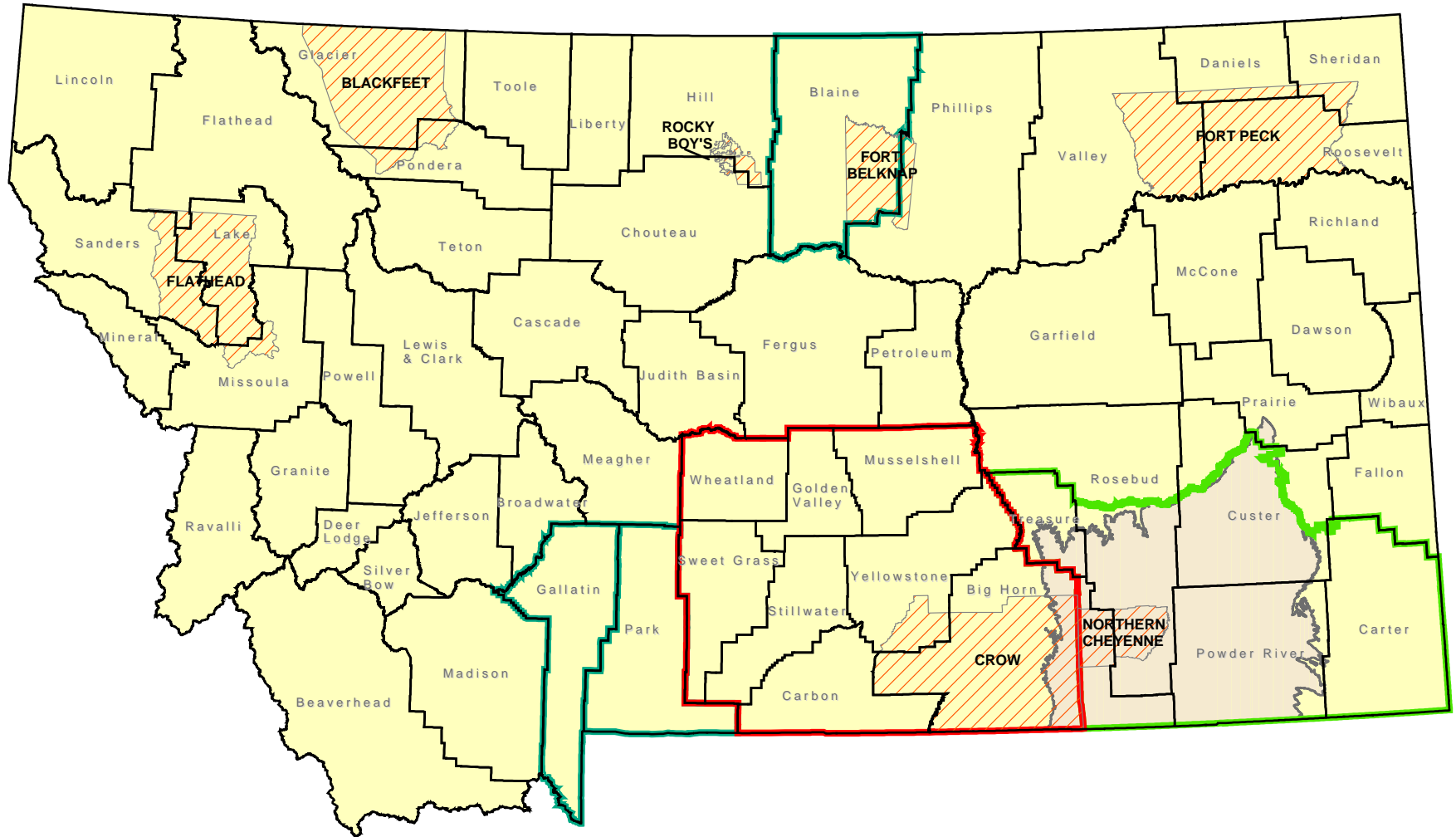
The State of Montana’s purpose is to develop a program to address CBM exploration, development, production, and reclamation in Montana. The EIS, in part, responds to the stipulation and settlement agreement, dated June 19, 2000, resulting from a lawsuit brought by the Northern Plains Resource Council against the MBOGC in the Montana First Judicial District Court, Lewis and Clark County.

## Planning Criteria

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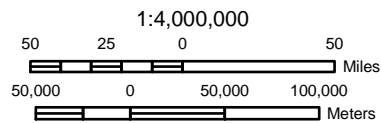
Planning criteria are the constraints or ground rules used by the BLM to guide and direct the development of an RMP. Planning criteria guide the resource specialists in the collection and use of inventory information, and in analyzing the management situation, defining and analyzing the alternatives, and selecting the Preferred Alternative.

**Map 1-1: Planning Areas**



**Legend**

- Billings RMP Area
- Powder River RMP Area
- Special Consideration Counties
- Native American Reservations
- Powder River Geologic Basin



**DATA SOURCES:**

Counties: 1:100,000 scale, counties, Montana State Library/NRIS, Helena, Montana.  
 Reservations: 1:100,000 scale, counties, Montana State Library/NRIS, Helena, Montana.  
 Powder River Geologic Basin: 1:250,000 scale, USGS Professional Paper 1625a.

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## Overall Considerations

1. The EIS/RMP will stand alone, but may be tiered from or incorporate by reference other documents as previously mentioned: *Oil and Gas Final EIS and Proposed Amendment of the Billings, Powder River and South Dakota RMPs*, *Wyodak Coal Bed Methane Project Final EIS*, and *Board of Oil and Gas Conservation Oil and Gas Drilling and Production in Montana EIS*.
2. The planning area for BLM is the BLM-administered oil and gas estate in Wheatland, Golden Valley, Musselshell, Sweet Grass, Stillwater, Yellowstone, Carbon, Big Horn, Treasure, Powder River, and portions of Carter, Custer, and Rosebud counties. The state planning area is statewide with emphasis on the BLM planning area and three isolated areas in Blaine, Park, and Gallatin counties. The planning area excludes those lands administered by other agencies (for example, Forest Service or Indian trust acreage).
3. The analysis area is any land that may be affected, regardless of ownership.
4. Alternatives will address the identified issues and management concerns. All other guidance will be presented in the Management Common to All Alternatives section of the Amendment/EIS.
5. The alternatives chosen will be economically and technically feasible. Those alternatives, or components of those alternatives, found not to be economically or technically feasible or viable will be dropped from or modified for consideration in the range of alternatives.
6. Any decision or mitigation measure required by the Amendment/EIS will be enforceable and will lend itself to monitoring.
7. Data acquisition will consist primarily of extrapolation and compilation of existing data and appropriate literature search.
8. Existing geological and fluid minerals data will be used to develop occurrence potentials and foreseeable development scenarios.
9. Current management guidance will be expanded to reflect recent resource regulations and guidelines pertaining to oil and gas operations.
10. A list of sensitive species will be identified and addressed in the document.

11. To the extent practicable, this document will be consistent with adjoining Forest Service lands and leases.
12. Decisions will comply with Rangeland Health Standards.

## Roles and Agency Responsibilities

The development and preparation of this Final EIS has involved the participation of several federal and state agencies and sovereign Tribal Governments. Serving as co-leads for this effort have been the BLM and State of Montana. Cooperating agencies and partners include the BIA, DOE, EPA, and the Crow Tribe of Indians and the Northern Cheyenne Tribe.

The co-lead agencies were responsible for conducting the scoping meetings, preparing the development forecast, developing resource management alternatives, coordinating with industry, outlining the EIS format, evaluating impact analyses, reviewing technical reports and draft versions of the EIS, collecting public comments, consulting with tribal governments as well as other cooperators, and hiring and managing the consultants. The co-lead agencies have served in an oversight role throughout the process by coordinating the efforts of their respective staffs and departments to facilitate a coherent approach to CBM development.

The cooperating agencies and partner governments role was to participate in the review process of all technical reports and draft EIS/RMP portions. These agencies and Tribal governments also attended numerous meetings both public and project-specific to discuss and enumerate concerns and comments.

## Bureau of Land Management

Drilling oil and gas exploration and production wells on lands where mineral rights are owned and controlled by the federal government must be conducted under an approved application for permit to drill (APD) issued by the BLM. In considering whether to approve applications for permit to drill and other lease activities, the BLM must consider the possible impacts from typical exploration and development activities, and cumulative environmental effects, to ensure compliance with NEPA. This FEIS was prepared to meet those requirements. As part of the permit process, BLM requires that adequate bond coverage is in place prior to approval of drilling activity on federal minerals.

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The BLM's authority and decisions, related to oil and gas development in the planning area are limited to the agency's stewardship, resource conservation, and resource protection responsibilities for federal lands and minerals. As conservator of the federal surface and mineral estate, the BLM has responsibility for ensuring that the federal mineral resource is conserved (not wasted) and is developed in a safe and environmentally sound manner.

Much of the planning area contains lands known as "split estate." These are lands where the surface ownership is different from the mineral ownership. Management of federal oil and gas on these lands is somewhat different from management on lands where both surface and mineral ownership is federal. On split estate lands where surface ownership is private, and BLM administers the minerals, BLM places necessary restrictions and requirements on permitted activities and works in cooperation with the surface owner. BLM has established policies for the management of federal oil and gas resources under the following statutes: Federal Land Policy and Management Act (FLPMA), NEPA, National Historic Preservation Act (NHPA), and Endangered Species Act (ESA) (see BLM 1992, under "Split Estate" for more information).

Regulatory areas where the BLM has shared responsibilities or consultation requirements with other federal or state agencies include the following:

- Oil and gas drilling—FLPMA of 1976, 43 U.S.C. 1701 *et seq.* as amended (PL 94-579), and the Mineral Leasing Act of 1920, as amended, (PL 93-153). This is a shared responsibility with the Montana Board of Oil and Gas Conservation.
- Activities that would impact waters of the U.S. from the discharge of produced waters—BLM must comply with the Clean Water Act (CWA) as provided by Section 313 of the CWA, Section 313, 33 U.S.C. 1323. NPDES permits are issued by the State of Montana for actions involving the discharge of water from point sources on non-Indian lands. For actions involving the discharge of water from point sources, BLM works with MDEQ on private and public lands, and with EPA on Indian lands. BLM issues its approval only after State or EPA approval has been given.
- Activities that would impact waters of the U.S. from the placement of fill materials—The U.S. Army Corps of Engineers and BLM have shared responsibility in Montana for dredge and fill permits associated with CBM activities under Section 404, General Permit No. 404. This covers activities that impact waters of the U.S. as a result of placing fill in either waters of the U.S. or jurisdictional wetlands. See 33 CFR Part 320 and 40 CFR Part 230—Section 404(b)(1) Guidelines for the Specification or Disposal Sites for Dredged and Fill Materials.
- Special status species of plants or animals—ESA, U.S.C. 1531 *et seq.* This is a shared responsibility with the U.S. Fish and Wildlife Service (FWS) and Montana Fish, Wildlife, and Parks (MFWP).
- Cultural or historical resources—NHPA, 16 U.S.C. 470. BLM is required to consult with the SHPO and ACHP in accordance with regulations found at 36 CFR 800 or through alternative procedures as specified through Programmatic Agreements. The BLM in Montana operates under a National Programmatic Agreement and a state-wide Protocol to meet its requirements under the NHPA.
- Air Quality Impacts - FLPMA (43 U.S.C 1701 *et seq.*) and the Clean Air Act (CAA; 42 U.S.C 7401 *et seq.*) as amended, require that BLM assure the actions it conducts or authorizes (including oil and gas development) comply with all applicable local, state, tribal, and federal air quality laws, regulations, standards, increments, and implementation plans. Local, state, and tribal requirements may be more (but not less) stringent than federal requirements. The implementation of federal requirements is delegated to local, state, or tribal regulatory authorities, under EPA oversight.
- Surface water diversions, stream channel modifications, construction of new reservoirs, reservoir supply, or dam modifications to existing reservoirs, Montana Dam Safety Act, 85-15-207. This is a shared responsibility with the MDEQ Water Resources.
- Oil and gas well spacing—Memorandum of Understanding (MOU) between BLM and the Montana Board of Oil and Gas Conservation (MBOGC) concerning Oil and Gas Well Spacing/Well Location Jurisdiction, and the Montana Oil and Gas Conservation Act, Statute 82-11-201, Establishment of Well Spacing Units. This is a shared responsibility with the MBOGC.
- Consultation with Tribal Governments—Under Executive Order 13175, BLM will provide a meaningful opportunity for input by tribal officials where the action would have tribal implications. The Executive Order reflects the federal government's trust responsibility to federally recognized Indian tribes. Pursuant to this trust

responsibility, the federal government establishes regular and meaningful consultation and collaboration with tribes on a government-to-government basis when federal activities may affect Indian tribes.

Protecting the U.S. Government and Indian lessors from loss of royalty as a result of oil and gas drainage is a prime responsibility of BLM. Under the terms of both federal and Indian leases, the lessee has the obligation to protect the leased land from drainage by drilling and producing any well(s) that is necessary to protect the lease from drainage or in lieu thereof and with the consent of the authorized officer, by paying compensatory royalty. Drainage analysis, on the basis of a production screen or other criteria, is required by BLM's Drainage Protection Guidelines. Federal leases determined to be in danger of drainage are subject to geologic, engineering, and economic analyses in order to define the presence and magnitude of drained reserves.

The geologic analysis is a comprehensive examination of the lithologic, structural, and stratigraphic components of the subject reservoir to determine whether drainage is geologically possible. The subject reservoir is mapped to define its limits and physical characteristics using all available data. Differences between the BLM's independent geologic analysis and the lessee's geologic analysis, if submitted, are discussed and reconciled in the final report. The report describes in detail how the geology affects drainage in the subject area.

The reservoir engineering/economic analysis is the final examination of the reservoir performance, production history, and economic determinants to determine whether drainage is occurring or has occurred and whether an economic protection well could have been drilled. The BLM would evaluate any data submitted by the lessee and resolve or explain any significant differences. The BLM analyses will determine the measures necessary to mitigate the effects of drainage of hydrocarbons ranging from a mineral owner's demand to drill a protection well to holding the lessee liable for the value of drained resource.

Exploration and production wastes include produced water, oilfield production fluids (including drilling muds and fracture fluid flowback), crude oil and condensate, and contaminated soils. Produced water, drilling muds, and fracture fluids are generally authorized for disposal by underground injection in Class II Underground Injection Control (UIC) wells under regulations of the MBOGC, or the EPA on tribal lands. Small, uneconomical quantities of crude oil

and/or condensate, when wasted, are typically collected and sold to a waste oil recycler. Soils contaminated with exploration and production wastes can be disposed in a Subtitle D (nonhazardous) landfill, or may be treated onsite with the approval of the appropriate regulatory authority and surface lessee. Drilling mud is exempt from both the Hazardous Waste Program (ARM 16.44.304(2)(c), and the Montana Hazardous Waste Act. Drilling mud that contains less than 15,000 total dissolved solids (TDS) can be disposed of onsite with the landowner's permission.

## State of Montana

State agencies that have authority over oil and gas activities include the DNRC and MDEQ. The DNRC has two divisions involved in oil and gas development. These divisions are the Oil and Gas Conservation Division—also known as the MBOGC, and the Trust Land Management Division (TLMD). The MBOGC is the lead agency for regulating oil and gas development in Montana. The Board's responsibilities include issuing drilling permits, classifying wells, establishing well spacing units and land pooling orders, inspecting drilling, production, and seismic operations, investigating complaints, conducting engineering studies, establishing bonding requirements, and collecting and maintaining well data and production information. It also administers the federal Underground Injection Control Program for Class II injection or disposal wells in Montana to protect underground sources of drinking water.

Additional regulatory areas where the State of Montana has responsibility are managed by state agencies that have jurisdiction over some aspects of the oil and gas drilling and production. These agencies are the DNRC and MDEQ. The MFWP and the SHPO serve in advisory roles though they have no regulatory authority. Each of these agency's roles and responsibilities are discussed below.

## Department of Natural Resources and Conservation

As a result of the 1995 legislative Natural Resource Agency reorganization, the "new" DNRC was formed. It combined the majority of programs from the old Departments of State Lands and Natural Resources and Conservation. Programs of the reorganized DNRC include: the MBOGC, TLMD, Reserved Water Rights Compact Commission, Forestry Division, Conservation and Resource Development Division, and Water Resources Division.

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The DNRC is responsible for sustaining and improving the benefits derived from water, soil, and rangeland, managing the State of Montana's trust land resources, protecting Montana's natural resources through regulation and partnerships with federal, state, and local agencies, promoting conservation of oil and gas and preventing their waste through the regulation of exploration and production, and managing and assisting in the management of several grant and loan programs. Sections addressing the responsibilities of the MBOGC, TLMD, and Water Resources Division as they pertain to oil and gas development follow this discussion.

### Montana Board of Oil and Gas Conservation

The MBOGC is the lead state agency for regulating oil and gas development in Montana. It is a quasi-judicial body that is attached to the DNRC for administrative purposes. The law is quite specific regarding some of the MBOGC's makeup:

*The board consists of seven members, three of whom shall be from the oil and gas industry and have had at least 3 years experience in the production of oil and gas, and two of whom shall be landowners residing in oil- or gas-producing counties of the state but not actively associated with the oil and gas industry, but one of the two landowners shall be one who owns the mineral rights with the surface and the other shall be one who does not own the mineral rights (MCA Section 2-15-3303).*

Additionally, one must be an attorney. All members are appointed to 4-year terms by the governor—four members (the majority) when he or she takes office, the others, 2 years later.

MBOGC's regulatory action serves three primary purposes: (1) to prevent waste of oil and gas resources, (2) to conserve oil and gas by encouraging maximum efficient recovery of the resource, and (3) to protect the correlative rights of the mineral owners, that is, the right of each owner to recover its fair share of the oil and gas underlying its lands. MBOGC also seeks to prevent oil and gas operations from harming nearby land or underground resources. Since 1993, MBOGC has performed the certification required for companies to receive tax incentives available for horizontal wells and enhanced recovery projects.

The MBOGC was established in 1953 with the passage of the Montana Oil and Gas Conservation Act (82-11-101, *et seq.*, Montana Code Annotated [MCA]).

Under Montana law, no oil or gas exploration, development, production, or disposal well may be drilled until a bond has been posted and MBOGC issues a drilling permit. This requirement applies to all private, state, and most federal lands, but excludes proposals on allotted or tribal minerals. In November 1987, MBOGC and the BLM signed a cooperative agreement to coordinate their decisions regarding permits to drill. Under this agreement, MBOGC accepts for the record all permits to drill for federal oil and gas minerals in Montana.

The powers and duties of MBOGC in regulating oil and gas activities are defined in 82-11-111, MCA. MBOGC is charged with determining whether a waste of resources is existing or imminent. Based on their determination, MBOGC can take measures to prevent contamination of or damage to surrounding land and underground strata caused by drilling operations and production. These measures include, but are not limited to, regulating the disposal of produced salt water and the disposal of oil field wastes. The MBOGC regulations are located in Title 36, Chapter 22, of the *Administrative Rules of Montana* (ARM).

In 1989, the MBOGC prepared a programmatic EIS to assist in determining how to incorporate any necessary environmental review into its rules and permitting process in an effort to come into compliance with MEPA. The programmatic EIS presented various alternatives for addressing environmental reviews during the permitting process. From these alternatives, MBOGC has adopted an environmental review process for permitting wells.

In conducting environmental reviews for new permits, MBOGC works with other state agencies that may become involved in the process. This 2003 FEIS was prepared to assist in the review process and to meet the requirements of both MEPA and NEPA for CBM development.

### Trust Land Management Division

The TLMD is responsible for managing the surface and mineral resources of forest, grazing, agricultural, and other classified state trust lands to produce revenue for the benefit of Montana's public schools and other endowed institutions. The TLMD manages more than 5.1 million acres of surface acreage and in excess of 6.3 million acres of mineral acreage.

The TLMD is divided into four bureaus: the Minerals Management Bureau, Agriculture and Grazing Management Bureau, Forest Management Bureau, and Special Uses Management Bureau.

The TLMD administers mineral leases on its school trust land mineral estate and, as a courtesy, other state agency's mineral estate. Leasing procedures will not change because of management alternatives. It should be noted that the TLMD is responsible for management of surface and mineral acreage, while some other agencies perform in more of a regulatory role. The TLMD must comply with MEPA. MEPA is required for state-proposed actions. The process is implemented both at the leasing stage and for proposed plans of operation (drilling plans). For plans of operation, it is conducted by the area offices. Information, management restrictions, and environmental documents are then forwarded to the Minerals Management Bureau for approval. The Minerals Management Bureau then notifies operators of their decision to approve or disapprove.

## Water Resources Division

The Water Resources Division is responsible for various programs coupled with the development, uses, and protection of Montana's water. It oversees the state-owned water resource projects, water rights, and water reservoirs. Its activities include centralized water rights record keeping, state water planning, floodplain management, dam safety, drought planning, and interstate coordination of water issues. The division provides administrative support to the Board of Water Well Contractors, a board that licenses well drillers and establishes minimum well construction standards.

Through the state water planning process, the division also guides the development of the state water plan and statewide water policies and laws. The state water plan is a progressive, collaborative, and citizen-based process for improving the management of the state's water resources. Other responsibilities include staffing the Drought Advisory Committee and coordinating drought responses, assisting in the planning and developing of water storage projects, analyzing the effects of proposed new water uses on existing water rights, protecting Montana's water from interstate, regional, and international threats, responding to federal laws and actions that potentially affect Montana's water, and providing water resource education to Montanans through the Montana Watercourse.

The division recently helped draft the *Powder River Basin Controlled Groundwater Area Final Order* that was signed by the DNRC director on December 15, 1999. A copy of the order is contained in Appendix A of the Water Resources Technical Report (ALL 2001b) prepared for this EIS. The order is intended to protect existing water users from impacts of CBM development. The order recommends monitoring and

reporting standards, establishes a Technical Advisory Committee, and calls for the implementation of mitigation agreements between surface owners and CBM operators. The Technical Advisory Committee makes recommendations to the MBOGC regarding specific site monitoring and reporting requirements. The MBOGC has enforcement authority over monitoring and reporting requirements for continuing CBM operations as established in the Boards' Order 99-99, *Establishing CBM Operating Standards*.

## Montana Department of Environmental Quality

MDEQ has two divisions directly or indirectly involved with oil and gas development: Permitting and Compliance and Planning, Prevention, and Assistance. The following are brief descriptions of the role of each division:

- The Permitting and Compliance Division is in charge of permit issuance and compliance monitoring for projects relating to air, water, public water supplies, solid and hazardous waste, subdivisions, motor vehicle recycling, open cut, hard rock, and coal and uranium mines, and applicable facilities under the Major Facility Siting Act. Nearly all permits and authorizations issued by MDEQ are handled through this division.
- The Planning, Prevention, and Assistance Division is involved with planning, policy, and standards development relating to air quality State Implementation Plans, water quality, non-point source management, groundwater protection, and solid waste management.

MDEQ administers MEPA along with Montana's Hazardous Waste Management Act, Clean Air Act, the Solid Waste Management Act, Water Quality Act, Water Quality Discharge Permits, Major Facility Siting Act, and the Montana Pollutant Discharge Elimination System. MDEQ is responsible for investigating the environmental impacts associated with continued oil and gas activities in accordance with MEPA and the EIS process.

MDEQ has delegated responsibility under the Federal Clean Water Act (P.L. 92-500) and Montana Water Quality Act (75-5-101, *et seq.*) to monitor and assess the quality of Montana surface waters for toxic and conventional pollutants, to prepare plans to control pollution, to assess water quality conditions and trends, to report them to the EPA and Congress, and to identify impaired or threatened stream segments and lakes. Furthermore, the state must provide a program for the

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prevention, abatement, and control of water pollution. Recent amendments to the Montana Water Quality Act (MCA 75-5-702, effective May 1997) require the Department to consider all currently available data when making water quality assessments, including information or data obtained from federal, state, and local agencies, private entities, or individuals with an interest in water quality protection.

The DEQ also administers the MPDES Storm Water Discharge Permitting Program. Owners/operators of Coal Bed Methane exploration, production, processing, or treatment operations, or of associated transmission facilities, are exempt from needing coverage under the DEQ's MPDES "*General Permit for Storm Water Discharges Associated with Mining and with Oil & Gas Activities*." The permit is contingent on the discharge being composed entirely of storm water that has not come into contact with, or been contaminated by contact with, any overburden, raw material, intermediate products, finished products, byproducts, or waste products located on the site.

Construction activities associated with CBM operations are subject to potentially requiring coverage under the DEQ's MPDES "*General Permit for Storm Water Discharges Associated with Construction Activity*." Permit coverage is obtained by submitting a Notice of Intent (NOI) package, including a completed NOI form, Storm Water Pollution Prevention Plan, and fee before the proposed construction start date. The determination of whether MPDES General Permit coverage for construction is required, or if more than one NOI is necessary under the General Permit, is based on the discharge(s) of storm water runoff to surface water, the acreage of disturbance(s) resulting from construction activity, proximity of construction-related disturbance to surface water, overall time period of construction, contractor(s) performing the construction activity, and number of drainage basins or receiving waterbodies.

When areas with construction-related disturbance have been stabilized, permit coverage under the General Permit may be terminated. With respect to the acreage of total construction-related disturbance triggering the need for permit coverage under this General Permit, new EPA Phase II requirements will be lowering the current 5-acre threshold to 1 acre. This Phase II requirement is built into the current June 8, 2002, General Permit, and should become effective March 2003 upon incorporation of Phase II requirements into the Administrative Rules of Montana.

MDEQ-Air & Waste Management Bureau (AWM) also has delegated responsibilities under the federal Clean Air Act (42 U.S.C. 7401, *et seq.*) that requires

the State to operate an approved ambient air quality monitoring network for the purpose of evaluating compliance with the National Ambient Air Quality Standards (NAAQS), to report air quality monitoring information to the EPA, and to prepare plans for controlling air pollution. Additionally, the state is required under the Clean Air Act of Montana (75-2-101, *et seq.*) to provide a coordinated statewide program of air pollution prevention, abatement, and control. When actual locations and operational requirements for gas compression facilities (CBM development) are determined, permit applications would be submitted to MDEQ-AWM. At that time, additional site-specific, air quality analyses, such as the Best Available Control Technology (BACT) analysis or Prevention of Significant Deterioration (PSD) increment analysis, may be performed.

## Montana Fish, Wildlife, and Parks

MFWP is responsible for the conservation and management of the fish, wildlife, parks, and recreational resources of Montana. This department advises other agencies of wildlife concerns.

## State Historic Preservation Office

Under the National Historic Preservation Act of 1966 as amended, states were given certain responsibilities. These responsibilities have been assigned to the SHPO, which is a program within the Montana Historical Society. The SHPO provides assistance in the following areas: the identification and listing of properties on the National Register of Historic Places (NRHP), historic building maintenance and rehabilitation, archaeological sites and research, tax incentives for preservation, community surveys, the PLACES program (Peoples, Lands, and Cultural Environments), National Register Signs, local government and grant assistance, preservation education, and state and federal agency responsibilities. The SHPO provides information regarding the procedures that state and federal agencies must follow to consider historic and archaeological resources in their activities and programs.

## Tribal Governments

The following two sections address the roles and responsibilities of the Crow Tribe of Indians and the Northern Cheyenne Tribe as they relate to the development of CBM on and around their reservations.

## Crow Tribe of Indians

The Crow Tribe's territorial jurisdiction as administered by the General Council extends to all lands within the exterior boundaries of the Crow Indian Reservation. The Crow Tribal Court has civil jurisdiction over all persons who reside, enter, or transact business within the reservation including non-Indian activities on fee lands within the reservation that may directly impact reservation lands or tribal welfare. The Crow Constitution tasks the Executive Branch with management and development of natural resources pending final approval of the Legislative Branch for any mineral agreement.

Within the context of resource utilization, the Crow Executive Branch delegates mineral development through the Tribe's Natural Resources and Environmental Departments. These departments may establish codes and set standards under federal statutes or inherent tribal authority for regulating activities that affect the tribal resources and environmental conditions. The Crow Tribe currently does not have any specific environmental laws or codes in place, but has the following ordinances and codes related to mineral development:

- Coal Exploration and Mining Ordinance 1998
- Land Use Zoning Ordinance 1995
- Crow Tribe Uniform Commercial Code 1998
- Tribal Employment Rights Ordinance 1979

The tribe has developed Draft Water Quality Standards and Draft Air Quality Standards, which will govern all development actions once these requirements are officially enacted. All mineral leasing and permitting for development, exploration, and Right-of-Way (ROW) authorization on Tribal or Allotted lands is subject to 25 CFR regulations enforced through BIA and BLM procedures.

The 1984 EPA *Indian Policy* acknowledges tribal governments as the primary parties for setting standards, making environmental policy decisions, and managing reservation programs consistent with agency standards and regulations. The EPA will assist interested tribal governments in developing programs and in assuming regulatory responsibility for reservation lands. Until the Crow Tribe is granted formal primacy for these delegated programs, the EPA will retain management and enforcement responsibilities.

The Crow Tribe's Constitution (July 2001) specifically provides the Executive Branch with detailed power for

Eminent Domain and ROW. While it is commonly established that Indian Tribes hold fundamental control for eminent domain and condemnation of lands, the Crow Tribe purposely named such powers in their constitution to provide notice to the public of the Tribe's objective to use this power. The logic behind purposely naming its power is to bolster its plan to develop mineral resources in the very near future. (Crow Tribe 2002)

## The Northern Cheyenne Tribe

The Northern Cheyenne Tribal government is structured by a Constitution and By-laws endorsed by the tribe and approved by the Secretary of the Interior in 1936. The Northern Cheyenne amended their Constitution in 1960 and in 1996 to address changes in their governmental structure. The Northern Cheyenne Government is organized into three branches, an executive branch, a legislative branch, and a judicial branch.

The Executive Branch oversees a series of boards, commissions and programs, some of which deal with the regulation and control of natural resources. Through these boards and programs, the Executive Branch administers federal contracts and grants, and conforms to federal standards for environmental quality.

The Legislative Branch (Tribal Council) has the power to negotiate with the federal, state, and local governments, approve or prevent the sale, disposition, or lease of tribal lands including oil and gas, eminent domain, and protect and preserve tribal natural resources. The Tribal Council also has economic powers such as the right to engage in any business that might further the economic interests of the tribe or to carry out other economic activities that are not inconsistent with their constitution.

The Judicial Branch has the power to review the constitutionality of ordinances adopted by the Tribal Council, including mineral leases.

The Northern Cheyenne Tribe has redesignated their lands under the Clean Air Act (CAA) as a Prevention of Significant Deterioration (PSD) Class I area. The allowable incremental impacts within PSD Class I areas are very limited. The CAA directs the EPA to promulgate the Tribal Authority Rule, establishing tribal jurisdiction over air emission sources on both trust and fee lands within the exterior boundaries of tribal lands. The Northern Cheyenne are currently in the process of developing a tribal Implementation Plan, to submit a "Treatment as State" application to the EPA. Requesting that the Tribe be treated in the same

## CHAPTER 1

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manner as a state under the CAA will allow them to participate in Section 105 grants and have formal recognition as an affected “state” when permits are written for sources within 50 miles of tribal lands.

The Northern Cheyenne have a formal water management policy governing the management of tribal waters resources on the reservation. The Tribe has yet to appoint a Water Resources Board or Administrator to oversee the implementation of their code and permitting process to account for water resources. However, once enacted the Water Code will be enforceable for all activities affecting tribal waters on the reservation. The Native Americans section in Chapter 3 contains a full explanation of the Northern Cheyenne Water Code.

The Northern Cheyenne have adopted Surface Water Quality Standards, to protect current uses and water quality through non-degradation provisions. The Tribe has adopted these standards and has submitted them to the EPA for review. In addition, the Tribe has submitted an application under Section 518 of the CWA for “Treatment as a State”. A complete explanation of the Draft Standards can be found in the Northern Cheyenne portion of the Native American section of Chapter 3.

## Other Federal Agencies

### Environmental Protection Agency

Under Section 402 of the CWA, 33 U.S.C. Section 1342, and 40 CFR Parts 122-125, EPA has authorized the states of Montana and Wyoming to issue National Pollutant Discharge Elimination System (NPDES) permits for discharges of pollutants from point sources into waters of the U.S. located in Montana and Wyoming, excluding Indian country as defined at 18 U.S.C. 1151. EPA retains an oversight and partnership role in state NPDES programs. As described in 40 CFR Part 123, Subpart C, EPA reviews proposed state NPDES permits for compliance with CWA requirements. For discharges in **Indian country** (a term that is defined in 40 CFR Section 122), EPA has direct implementation authority for issuing NPDES permits. Under Section 402 of the CWA, EPA is preparing a technical and economic analysis to assess disposal options for water that is produced as part of the CBM extraction process. The analysis will support the determination of effluent limitations that represent economically achievable BACT for CBM-produced waters. The following sections of the CWA also apply:

- **CWA Section 401, 33 U.S.C. Section 1341, and 40 CFR Part 121.** These provisions describe

EPA’s role in addressing certain discharges in one state that may affect the quality of water within any other state. The Northern Cheyenne Tribe has applied for “treatment as a state” designation under Section 518 of the CWA.

- **CWA Section 518, 33 U.S.C. Section 1377, and 40 CFR Part 131.8.** In June of 1999, the Crow Tribe submitted a draft application to EPA to administer a water quality standards program. The Northern Cheyenne Tribe submitted a draft application to EPA to administer water quality standards in January of 2001 and anticipates submitting a final application to EPA later this year.
- **CWA Section 303(d), 33 U.S.C. Section 1313(d) and 40 CFR Part 130.** These provisions require states to identify waters that need Total Maximum Daily Loads (TMDLs) standards and to establish TMDLs for them, with an oversight and partnership role for EPA. Currently, EPA and the State of Montana are subject to a court order that prohibits NPDES permits for new or increased discharges into any water body that has been listed as needing any TMDLs standards until all necessary TMDLs standards are established for a particular water quality limited segment (U.S. District Court 2000). The Tongue River, the Powder River, and the Little Powder River have been included on the list of streams that need TMDLs.

The Safe Drinking Water Act (SDWA) also applies to CBM projects, specifically, 42 U.S.C. Section 300f, *et seq.*, particularly 42 U.S.C. Sections 1421 *et seq.*, and 40 CFR Parts 144-147 regarding underground injection control (UIC). Should produced water from CBM operations be injected into the ground, UIC permits may be necessary. EPA and the states administer UIC programs to protect underground sources of drinking water. EPA administers the programs for Class V UIC wells in the State of Montana and for all classes of UIC wells on Indian lands in Montana and Wyoming. EPA has approved Wyoming’s program for administering the UIC program for all five classes of UIC wells and Montana’s program for administering the UIC program for Class II wells, and EPA retains an oversight and partnership role with these states for these programs. EPA’s approvals of the states’ authorities to administer these programs do not extend to Indian country.

EPA also administers Section 309 of the CAA, 42 U.S.C. Section 7609. This provision calls for EPA to review and comment on the environmental impact of major federal actions to which the NEPA, 42 U.S.C. Section 4332(2)(C), applies.

## Bureau of Indian Affairs

BIA is responsible for the approval of any lease, agreement, permit, or document that could encumber lands and minerals owned by either tribes or allottees. Title to these resources is held by the U.S. Government in trust. As such, agreements or arrangements, involving the trust assets, that tribes or allottees make are not binding until they have been approved by the trustee. The agency that has been authorized to act as the trustee to keep the resources from being harmed or alienated is the BIA.

Within the Crow Reservation, there are approximately 1,497,000 acres of trust land out of the 2,282,000 total acres within the boundary. The Northern Cheyenne Reservation is composed of 444,000 acres within the external boundary. Of that amount, 442,000 acres are held in trust. (Land Titles and Records Office, BIA, Rocky Mountain Regional Office 1994).

The BIA intends to adopt the EIS for future decisions it may have to make on hydrocarbon exploration and production with an emphasis on CBM involving trust minerals. Such decisions relate to approval of leases, agreements, easements and/or ROW associated with exploration and production. The BIA will rely on the reasonably foreseeable development estimates and cumulative impact analysis anticipated for the region. The science and analysis components of the document may be incorporated in future BIA NEPA compliance documents.

## U.S. Department of Energy

### Fossil Energy

The Office of Fossil Energy is charged with enhancing the U.S.' economic and energy security through the following actions:

- Managing and performing energy-related research that promotes the efficient and environmentally sound production and use of fossil fuels.
- Partnering with industry and others to advance clean and efficient fossil energy technologies toward commercialization.
- Managing the Strategic Petroleum Reserve to reduce vulnerability to economic, national

security, and foreign policy consequences of supply interruptions.

- Supporting the development of information and policy options that benefit the public by ensuring access to adequate supplies of affordable and clean energy.

### *Office of Fossil Energy—Oil and Gas Program*

The primary mission is to assure that fossil energy resources can meet increasing demand for affordable energy without compromising the quality of life for future generations. This program has been at the forefront of research to advance fossil energy exploration, supply, and end-use technologies.

The Oil and Gas programs include the following:

- **Natural Gas Technologies.** Pursuing advances in exploration and production, infrastructure reliability, and technologies including fuel cells and gas turbines systems.
- **Oil Technology.** Enhancing the efficiency of oil exploration, recovery, and processing while improving environmental quality.
- **Gas Energy Systems Dynamics.** Activities will lead to the development of the next generation of gas turbines, fuel cells, coupled turbine-fuel cell systems, and reciprocating engines, and lay the foundation for new gas utilization technologies.
- **Ultra Clean Fuels.** Developing enabling science for the production of ultra-clean and affordable fuels from fossil resources for high-efficiency transportation systems.

## Agency Permits and Reviews

Table 1-1 shows the agencies and applicable permits or reviews potentially required for oil and gas operations on federal, state, and private lands. Table 1-2 is a matrix showing the permissible activity and the responsible agency issuing a permit or approval.

**TABLE 1-1**  
**APPLICABLE PERMITS/REVIEWS FOR OIL AND GAS DEVELOPMENT ACTIVITIES**

Agency	Review/Permit/Approval
Bureau of Land Management (BLM)	<p>Approval of APDs and Sundry Notices (SNs) on federal leases. Approval or issuance of ROW on federal surface.</p> <p>Approval of Communitization Agreements and Federal Unit Agreements.</p> <p>Native American Graves Protection and Repatriation Act (NAGPRA) regulates the treatment of unmarked Indian graves and human skeletal remains. NAGPRA is implemented by regulations found at 43 CFR Part 10.</p> <p>The National Register of Historic Places (NRHP) is the official list of the Nation’s cultural resources worthy of preservation. Properties listed in the National Register include districts, sites, buildings, structures, and objects that are significant in American History, architecture, archeology, engineering, and culture. These resources contribute to an understanding of the historical and cultural foundations of the Nation. The Advisory Council of Historic Preservation (ACHP), an independent Federal Agency, was established by the NHRP. The ACHP, through regulations found at 36 CFR 800, has a specific role to advise Federal agencies regarding the effects of their actions on Historic Properties. Historic properties are by definition, cultural resources that are eligible to or listed on the NRHP.</p> <p>American Indian Religious Freedom Act (AIRFA) and Executive Order 13007 acknowledges the rights of Native Americans to practice traditional religion, have access to and protect religious sites, and possess sacred objects.</p>
U.S. Army Corps of Engineers (COE)	Section 404 of the Clean Water Act—regulates the discharge of dredged or fill material into waters of the U.S.; Section 404 permit.
U.S. Fish and Wildlife Service (FWS)	Review under ESA/Biological Opinion.

**TABLE 1-1**  
**APPLICABLE PERMITS/REVIEWS FOR OIL AND GAS DEVELOPMENT ACTIVITIES**

Agency	Review/Permit/Approval
U.S. Environmental Protection Agency (EPA)	<p>Regulates Underground Injection Control (UIC) Class V injection program/UIC Permit.</p> <p>Regulates all classes of underground injection wells and all point source discharge to streams for any source located in Indian country.</p> <p>ESA review for NPDES permits, TMDLs and Water Quality Standards (WQS) on state and tribal lands.</p> <p>Clean Air Act (CAA)—(42 U.S.C. 7401, <i>et seq.</i>) Air quality permitting for air pollutant emitting sources within the exterior boundaries of tribal lands.</p> <p>404 enforcement under the CWA for dredge and fill activities.</p> <p>401 Discharge certification under the CWA on tribal lands and certain discharges in one state that may affect the quality of water within any other state.</p> <p>518 under the CWA for approval or disapproval of Tribal Water Quality Standards.</p> <p>Section 303(d) of the CWA regarding EPA’s oversight and partnership role with states to identify streams that do not meet the CWA objectives by establishing TMDLs for such streams.</p>
Montana Department of Environmental Quality (MDEQ)	<p>Administers MEPA (75-1-101, MCA).</p> <p>Clean Air Act of Montana (75-2-101 <i>et seq.</i>, MCA)(ARM 17.8). Air quality permitting for air pollutants emitting sources outside the exterior boundaries of tribal lands.</p> <p>Resource Conservation and Recovery Act (RCRA) Waste Disposal—Hazardous Waste Management Act (75-10-401, Montana Codes Annotated [MCA]) (Administrative Rules of Montana [ARM] 17.53.101).</p> <p>Solid Waste Management Act (75-10-201, MCA) (ARM 17.50.501).</p> <p>Water Quality Act (75-5-401 through 405, MCA).</p> <p>Montana Surface WQS (ARM 17.30.601 <i>et seq.</i>).</p> <p>401 Discharge Certification under the CWA.</p> <p>Montana Nondegradation Rules (ARM 17.30.701 <i>et seq.</i>).</p> <p>Montana Pollutant Discharge Elimination System (MPDES) (ARM 17.30.1201 – 1426).</p> <p>Certificate of environmental compatibility—Major Facility Siting Act (75-20-101, MCA).</p> <p>Montana Groundwater Pollution Control System (MGWPCS) (ARM 17.30.100 <i>et seq.</i>).</p>
State Historic Preservation Office (SHPO)	<p>Review under the National Historic Preservation Act (NHPA) regarding identification and evaluation of cultural/historic resources.</p>

**TABLE 1-1**  
**APPLICABLE PERMITS/REVIEWS FOR OIL AND GAS DEVELOPMENT ACTIVITIES**

<b>Agency</b>	<b>Review/Permit/Approval</b>
County Weed Districts	Review for control and prevention of noxious weed infestations under the Noxious Weed Control Law (7-22-2101, MCA).
Local Conservation District	Montana Natural Streambed and Land Preservation Act (310 Permit).
Montana Department of Natural Resources and Conservation (DNRC)	See descriptions for individual bureaus and divisions listed below.
Trust Land Management Division (TLMD)	Approval of activities on state trust surface and mineral estate (subsurface) lands; issuing land use licenses, easements, and mineral leases; conducting land exchanges; manages grazing permits.
Minerals Management Bureau (MMB)	Responsible for leasing, permitting, and managing mineral leasing program.
Water Resources Division, Water Rights Bureau	Permit to allow beneficial use of groundwater and surface water. (85-2-310 to 312, MCA).
Montana Board of Oil and Gas Commission (MBOGC)	Approval of state drilling permits on state and private leases (APDs). (ARM 36.22) (82-11-111, MCA).  Oversee UIC program for Class II wells (ARM 36.22.1401)(82-11-101, MCA).  RCRA-exempt Solid Waste Disposal (ARM 36.22.1105).  Surface Restoration (ARM 36.22.1307).

**TABLE 1-2**  
**PERMITTABLE ACTIVITIES FOR CBM DEVELOPMENT**

<b>Permittable Activity</b>	<b>Federal Agencies</b>	<b>State Agencies</b>
<b>Drilling on a Federal Lease</b>	<b>BLM</b> - Approval of APDs and SNs on Federal leases. (3162.3-1, Onshore Oil and Gas order No. 1) <b>U.S. Army COE</b> – 404 General permit if access roads cross perennial streams <b>USFWS</b> – Review of EA/EIS for Biological Opinion	<b>MBOGC</b> – Federal APD (for record purposes only) <b>SHPO</b> - Review under the National Historic Preservation Act (NHPA) regarding protection of cultural/historic resources.
<b>Drilling on a State or Fee Lease</b>		<b>MBOGC</b> – Approval of state drilling permits on state and private leases (APDs). (ARM 36.22) (82-11-111, MCA) <b>MBOGC</b> – Checklist EA approval <b>DEQ</b> - Administers MEPA (75-1-101, MCA) for site-specific EISs <b>TLMD</b> - Approval of activities on state trust surface and mineral estate (subsurface) lands <b>SHPO</b> - Review under the NHPA <b>DNRC/TLMD</b> – Approval of ROWs on Trust lands <b>Surface Owner</b> – Agreement of ROWs under Surface Owner Agreement <b>SHPO</b> - Review under the NHPA <b>SHPO</b> - Review under the NHPA
<b>Right-of-Ways (ROW)</b>	<b>BLM</b> – Approval of ROWs on BLM administered surface lands	
<b>Building a Gas Compressor Station on a Federal lease</b>	<b>EPA</b> - Clean Air Act (CAA)—(42 U.S.C. 7401, <i>et seq.</i> ) Air Quality Permits within the exterior boundaries of tribal lands.	
<b>Building a Gas Compressor Station on a State or Fee Lease</b>		<b>DEQ</b> – Clean Air Act of Montana (75-2-101 <i>et seq.</i> , MCA)(ARM 17.8). Air Quality Permitting outside the exterior boundaries of tribal lands. <b>SHPO</b> - Review under the NHPA <b>DEQ</b> – MPDES General Discharge permit
<b>Discharge of Dredged or Fill Material</b>	<b>U.S. Army COE</b> - discharge of dredged or fill material into waters of the U.S.; Section 404 permit.	
<b>Hazardous Waste Disposal</b>		<b>DEQ</b> - Resource Conservation and Recovery Act (RCRA) Waste Disposal—Hazardous Waste Management Act (75-10-401, Montana Codes Annotated [MCA]) (Administrative Rules of Montana [ARM] 17.53.101). <b>MBOGC</b> – RCRA-exempt Solid Waste Disposal (ARM 36.22.1105). <b>DEQ</b> - Solid Waste Management Act (75-10-201, MCA) (ARM 17.50.501).
<b>Drilling Mud and other Solid Waste Disposal</b>		

**TABLE 1-2**  
**PERMITTABLE ACTIVITIES FOR CBM DEVELOPMENT**

Permittable Activity	Federal Agencies	State Agencies
<b>Disposal of Produced Water</b>		
Injection	<b>EPA</b> - Underground Injection Control (UIC) Class V Permits for wells on both Federal and State lands. UIC Class II and V Permits for Indian Reservations	<b>MBOGC</b> - Oversee UIC program for Class II wells (ARM 36.22.1401)(82-11-101, MCA).
Infiltration Pit	<b>BLM</b> - Onshore Order No. 7 Permit <b>BLM</b> - Onshore Order No. 7 Permit	<b>MBOGC</b> –Infiltration Pit Permit for the construction and operation <b>DEQ</b> - Montana Pollutant Discharge Elimination System (MPDES) (ARM 17.30.1301 – 1426).
Surface Discharge	<b>EPA</b> - Review for NPDES permits, on state and tribal lands and 401 Discharge Certification under the CWA on tribal lands and certain discharges in one state that may affect the quality of water within any other state.	<b>DEQ</b> - 401 Discharge Certification under the CWA & Montana Nondegradation Rules (ARM 17.30.701 <i>et seq.</i> ). <b>DEQ</b> - Montana Pollutant Discharge Elimination System (MPDES) (ARM 17.30.1301 – 1426).
Treatment & Discharge		<b>DEQ</b> - 401 Discharge Certification under the CWA & Montana Nondegradation Rules (ARM 17.30.701 <i>et seq.</i> ).
Beneficial Use		<b>MDNRC/WRD/WRB</b> - Permit to allow beneficial use of groundwater and surface water. (85-2-310 to 312, MCA).

## Issues

This section presents planning issues identified through the public scoping process and the BLM and state planning activities. The issues raised were in relation to CBM development. These issues are addressed in the analysis of impacts in Chapter 4.

### Air Quality and Climate

- Reduction in visibility occurring to the Northern Cheyenne Indian Reservation PSD Class I airshed from emissions
- Air quality impacts from oil- and gas-related activities
- Dust and emissions associated with road and drill pad construction, drilling operations, production, and compression
- Creation or release of harmful gases (hydrogen sulfide) and venting
- Consistency with the air quality model currently being developed for the Powder River EIS through the BLM Buffalo Field Office, Wyoming
- Release of greenhouse gases and effect on global warming
- Changes in ambient air quality and how this relates to objectives for minimizing regional haze based on the “Regional Haze Rule”
- Changes in climate associated with CBM development

### Cultural Resources

- Avoidance of direct and indirect disturbances to cultural resources may precipitate the development of targeted inventory and evaluation strategies in the planning stages of field development
- Impacts on the qualities of a cultural resource site affecting its eligibility for the NRHP
- Increased access for oil and gas exploration and development may result in inadvertent, indirect, and cumulative effects to cultural resources
- Identification of specific districts or localities in which oil and gas development may be incompatible with existing cultural values
- Identification of areas of critical environmental concern

## Geology and Minerals

- Re-establish hydrologic balance and functionality after CBM development so that adjacent or nearby coal companies can recover their bonds and determine effects on aquifer reconstruction in coal mine areas
- Discharge of CBM-produced waters could affect new coal mines if entering the mine permit boundaries
- Effects on oil and gas development from other resource protection measures
- Loss of methane resource because of venting from coal mines
- Drainage of methane from federal minerals from offsetting state and private wells
- Quantity of methane recovered
- Effect of over-pumping CBM water on gas recovery
- Subsurface coal fires
- Potential loss of coal production due to CBM development

## Hazardous Materials and Waste Management

- Use of hazardous materials and potential for misuse as a part of CBM development

## Hydrology

### Groundwater

- Produced water quality and appropriate beneficial reuses
- Drawdown of aquifers and drying up of natural springs due to CBM production
- Appropriate water management alternatives
- Water quality impacts
- Water rights conflicts
- Changes in pumping rate and cumulative drawdown due to CBM development
- Impacts on down- and up-gradient water resources in both confined and unconfined aquifers

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- Long-term effects of CBM pumping on aquifer recharge and groundwater resources
- Effects on DNRC established Powder River Basin Controlled Groundwater Area
- Shallow (Class V) and deep (Class II) injection of produced water opportunities

### Surface Water

- Effect of high sodium adsorption ratio (SAR) and increased flow rates on eroding stream channels
- Impacts on water quality from produced water
- Impacts on biota from water quality changes
- MPDES discharge analysis for CBM-produced waters
- Cumulative impacts on water quality and quantity
- Impacts on irrigated cropland

### Indian Trust Resources and Native American Concerns

- Unique Native American concerns and social impact on Native Americans
- The effects of discharged water on agriculture, fishing, hunting, and gathering of native and sacred plants as they relate to traditional values held by the tribes
- Protection of Indian trust assets with regard to resource drainage and reduction of usable assets
- Water quality preservation agreement with the Northern Cheyenne
- Effects to reservation PSD Class I area classification and nonattainment area
- Impacts on sites with traditional cultural importance to Native Americans in areas on and adjoining the reservations
- Increased use of public facilities and services on reservations
- Cultural and socioeconomic impacts on tribal members associated with CBM development

### Lands and Realty

- Construction effects from drilling, roads, pipelines, and water disposal facilities
- Infrastructure needed to accommodate CBM development would require numerous road, powerline, and pipeline ROW

### Livestock Grazing

- Impacts on grazing lands from discharge of high salinity water
- Effects on livestock and ranching operations from the increased availability of water
- Displacement of grazing lands from the development of CBM well pads and loss of natural forage
- Change in vegetative communities to more salt-tolerant species that are generally not preferred by livestock

### Paleontological Resources

- Impacts from vandalism and unpermitted collectors as a result of increased access to remote areas
- Impacts on paleontological localities from oil and gas development

### Recreation

- Effects on hiking, hunting, and other recreational activities from CBM development
- Displacement and disturbance of wildlife and habitat will affect hunting, hiking, and other recreational activities

### Social and Economic Values

- Increased levels of background noise and what noise mitigation would be conducted
- Impacts on social service agencies and local economics from increased population
- Decreased land values
- Escalated real estate prices
- Agricultural job loss

- Economic effect on local communities, including potential increased wage income, lower unemployment, increased local business, and potential costs of a “boom and bust” scenario
- Cost to residents from potential CBM production affects on springs, livestock watering, and domestic water
- Social structure impacts through direct impacts on the local economy
- Revenue associated with the amount of methane recovered
- Tax revenue to local, state, and federal entities
- Effects on local economies and lifestyle from royalties to the state and federal government
- Royalties to local landowners who own mineral rights and surface disturbance payments to landowners who do not own mineral rights
- Lack of royalties or tax revenues available for Tribes from non-Indian oil and gas leases.
- Benefits from more abundant clean energy
- Effect from Wyoming CBM development (cumulative)
- Economics of mitigation strategies
- Socioeconomic effect from lowering the water table
- Quantity of economical oil and gas resources and market implications
- Effects to agricultural productivity from SAR levels
- Effects to agriculture from air, soil, and water contamination
- Private surface owner notification prior to work
- Mechanism needed for land owner input on drilling, and leasing and mineral estate issues

## Environmental Justice

- Make distributive justice analysis part of the public comment and decision process
- Northern Cheyenne Tribal Government’s reliance on operator lease fees from tribal ranchers and irrigators operating on private and reservation lands

## Soils

- High sodium effects: dispersion of soil colloids, reduced water infiltration, vegetative composition and population changes, mud pits and bogs, change in crop production yields, and changes in crops grown because of salinity tolerance levels
- Effects on soils from surface discharge flow changes: erosion on stream banks and in ephemeral drainages if these are the discharge points (increased erosion where dispersion occurs)
- Effects on irrigated soils: changes in salt content in soil profile, changes in salt composition, saline seeps downgradient from irrigated soils, dispersion of soil colloids (reduction of soil permeability and increased erosion), and changes to micro-organism populations and composition
- Development effects: disturbance during drilling at pads (exposure to wind and water erosion), and road development (loss of soil used to develop road beds, and packing soil in undeveloped roads, leading to wind erosion)
- Effects on irrigation and crop management practices: addition of additional water for leaching fraction, potential for water logging soils, modification of irrigation systems, change in cropping equipment, and effects on crops
- Effects from land subsidence and disturbance

## Vegetation

- Effect of surface discharge of high sodium or SAR water on native vegetation species that are salt intolerant, as well as on streamside vegetation
- Change in vegetative communities to more salt-tolerant species
- Loss of surface vegetation from construction
- Invasion of exotic and noxious plant species in disturbed areas
- Loss of plant productivity from development
- Protection of grasslands within the Powder River Basin
- Agricultural land withdrawal for CBM production

## Special Status Species

- Mitigation measures or avoidance needed to manage and protect candidate and sensitive species

## CHAPTER 1

### Purpose of and Need for Action

- Loss of threatened and endangered species from development

### Visual Resource Management

- Visual degradation from construction of production facilities, roads, powerlines, and pipelines
- Visual pollution

### Wilderness Study Areas

- Effects on wilderness study areas from CBM exploration and development

### Wildlife

- Impacts from infrastructure development and increased human disturbance on wildlife habitat availability, quality and integrity, escape habitat, and management plans of MFWP

- Fragmentation of wildlife habitat
- Effects from water availability, quality, and quantity
- Loss of animals from hazards to the habitat, such as vehicles, equipment, and increased human access
- Effects on major waterways, such as the Tongue and Powder rivers, and to aquatic ecosystems, including fisheries
- Effect on migration patterns
- Change in vegetative communities to species that are generally not preferred by wildlife
- Effects from increased noise levels
- Effects from powerlines